# Coding/Spreadsheets

## Introduction

In this project we had made a lot of calculations, we will define those categories as below:

*For the Static input table:*

* Wastes
* Recycling
* Stream Restoration
* Pollution
* Planting
* Land Size
* Wildlife
* Recreation
* Air Pollution
* Human impact
* Waste Disposal

*For the Result set table:*

* Pollution
* Overall result
* Human Impact
* Stream restoration progress
* Land/Waste/Recycling ratios
* Nature

## Definition

*Static input table*

Wastes: Is how much waste will come from that area.

Recycling: How much Reusing and Recycling that area does to help the environment

Stream Restoration: How much effort they are putting into the stream to keep the stream healthy

Pollution: Pollution and Waste combined together to create an overall estimate of the damage they do to the environment.

Planting: How much planting they do to help the Catchment

Land Size: The land mass of an area.

Wildlife: The amount of animals and other wildlife in the Catchment

Recreation: How much human activates have within the particular area

Air Pollution: How much air pollution they release into the air

Human impact: How much humans interact with the environment

Waste Disposal: How much rubbish they depose from there area

*For the Result set table:*

Pollution: Air Pollution and Waste got merge together to create an overall estimation of how much they put into the environment

Overall result: An overall result of how much there rating is in the Catchment the bigger the number the more amount of damage they do to the environment.

Human Impact: How much humans are impacting the environment.

Stream restoration progress: How much effort they are putting into the stream to keep the stream healthy.

Land/Waste/Recycling ratios: How much recycling compared to there waste disposal and land ratio.

Nature: Is overall wildlife and planting that goes into an area.

## Calculation

*For the Static input table:*

The Pollution rate = (Wastes + Air Pollution) / 2

Human Impact = Recreation/ 100

*For the Result set table:*

Pollution = (the above areas/how many area that need to split) +the current wastes.

Overall = Pollution rate + Human Impact –Stream Restoration + Land/Waste/Recycling ratios.

Human Impact = Static input table’s pollution \* Static input table’s Human Impact

Stream restoration = Pollution \*((100- Static input table’s stream restoration)/100)

Land/Waste/Recycling ratios= Pollution \*((100- Static input table’s stream restoration)/100)\*(1+((1-((Recycling-Waste Disposal)/Land sizes))/10))

Nature = 100-Wastes

## Colouring

### Coding:

Sub test()

With ActiveSheet.Shapes("R\_Area")

If Range("AF13").Value >= 0 And Range("AF13").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AF13").Value > 150 And Range("AF13").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AF13").Value > 300 And Range("AF13").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AF13").Value > 450 And Range("AF13").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AF13").Value > 600 And Range("AF13").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AF13").Value > 750 And Range("AF13").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("A\_Area")

If Range("AJ12").Value >= 0 And Range("AJ12").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ12").Value > 150 And Range("AJ12").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ12").Value > 300 And Range("AJ12").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ12").Value > 450 And Range("AJ12").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ12").Value > 600 And Range("AJ12").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ12").Value > 750 And Range("AJ12").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("B\_Area")

If Range("AA13").Value >= 0 And Range("AA13").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA13").Value > 150 And Range("AA13").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA13").Value > 300 And Range("AA13").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA13").Value > 450 And Range("AA13").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA13").Value > 600 And Range("AA13").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA13").Value > 750 And Range("AA13").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("C\_Area")

If Range("AJ24").Value >= 0 And Range("AJ24").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ24").Value > 150 And Range("AJ24").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ24").Value > 300 And Range("AJ24").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ24").Value > 450 And Range("AJ24").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ24").Value > 600 And Range("AJ24").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ24").Value > 750 And Range("AJ24").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("D\_Area")

If Range("AJ36").Value >= 0 And Range("AJ36").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ36").Value > 150 And Range("AJ36").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ36").Value > 300 And Range("AJ36").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ36").Value > 450 And Range("AJ36").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ36").Value > 600 And Range("AJ36").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ36").Value > 750 And Range("AJ36").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("E\_Area")

If Range("AJ48").Value >= 0 And Range("AJ48").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ48").Value > 150 And Range("AJ48").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ48").Value > 300 And Range("AJ48").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ48").Value > 450 And Range("AJ48").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ48").Value > 600 And Range("AJ48").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ48").Value > 750 And Range("AJ48").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("F\_Area")

If Range("AA48").Value >= 0 And Range("AA48").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA48").Value > 150 And Range("AA48").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA48").Value > 300 And Range("AA48").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA48").Value > 450 And Range("AA48").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA48").Value > 600 And Range("AA48").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA48").Value > 750 And Range("AA48").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("G\_Area")

If Range("AA37").Value >= 0 And Range("AA37").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA37").Value > 150 And Range("AA37").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA37").Value > 300 And Range("AA37").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA37").Value > 450 And Range("AA37").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA37").Value > 600 And Range("AA37").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA37").Value > 750 And Range("AA37").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("H\_Area")

If Range("AA49").Value >= 0 And Range("AA49").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA49").Value > 150 And Range("AA49").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA49").Value > 300 And Range("AA49").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA49").Value > 450 And Range("AA49").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA49").Value > 600 And Range("AA49").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA49").Value > 750 And Range("AA49").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("I\_Area")

If Range("AJ60").Value >= 0 And Range("AJ60").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ60").Value > 150 And Range("AJ60").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ60").Value > 300 And Range("AJ60").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ60").Value > 450 And Range("AJ60").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ60").Value > 600 And Range("AJ60").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ60").Value > 750 And Range("AJ60").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("K\_Area")

If Range("AD84").Value >= 0 And Range("AD84").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AD84").Value > 150 And Range("AD84").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AD84").Value > 300 And Range("AD84").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AD84").Value > 450 And Range("AD84").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AD84").Value > 600 And Range("AD84").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AD84").Value > 750 And Range("AD84").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("L\_Area")

If Range("AG96").Value >= 0 And Range("AG96").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AG96").Value > 150 And Range("AG96").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AG96").Value > 300 And Range("AG96").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AG96").Value > 450 And Range("AG96").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AG96").Value > 600 And Range("AG96").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AG96").Value > 750 And Range("AG96").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("M\_Area")

If Range("AG96").Value >= 0 And Range("AG96").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AG96").Value > 150 And Range("AG96").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AG96").Value > 300 And Range("AG96").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AG96").Value > 450 And Range("AG96").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AG96").Value > 600 And Range("AG96").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AG96").Value > 750 And Range("AG96").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("N\_Area")

If Range("AG84").Value >= 0 And Range("AG84").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AG84").Value > 150 And Range("AG84").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AG84").Value > 300 And Range("AG84").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AG84").Value > 450 And Range("AG84").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AG84").Value > 600 And Range("AG84").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AG84").Value > 750 And Range("AG84").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("O\_Area")

If Range("AA85").Value >= 0 And Range("AA85").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA85").Value > 150 And Range("AA85").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA85").Value > 300 And Range("AA85").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA85").Value > 450 And Range("AA85").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA85").Value > 600 And Range("AA85").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA85").Value > 750 And Range("AA85").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("P\_Area")

If Range("AA73").Value >= 0 And Range("AA73").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA73").Value > 150 And Range("AA73").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA73").Value > 300 And Range("AA73").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA73").Value > 450 And Range("AA73").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA73").Value > 600 And Range("AA73").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA73").Value > 750 And Range("AA73").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("S\_Area")

If Range("AJ84").Value >= 0 And Range("AJ84").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ84").Value > 150 And Range("AJ84").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ84").Value > 300 And Range("AJ84").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ84").Value > 450 And Range("AJ84").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ84").Value > 600 And Range("AJ84").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ84").Value > 750 And Range("AJ84").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("T\_Area")

If Range("AA61").Value >= 0 And Range("AA61").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AA61").Value > 150 And Range("AA61").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AA61").Value > 300 And Range("AA61").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AA61").Value > 450 And Range("AA61").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AA61").Value > 600 And Range("AA61").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AA61").Value > 750 And Range("AA61").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

With ActiveSheet.Shapes("U\_Area")

If Range("AJ72").Value >= 0 And Range("AJ72").Value <= 150 Then

.Fill.ForeColor.RGB = RGB(41, 186, 21)

ElseIf Range("AJ72").Value > 150 And Range("AJ72").Value <= 300 Then

.Fill.ForeColor.RGB = RGB(45, 159, 77)

ElseIf Range("AJ72").Value > 300 And Range("AJ72").Value <= 450 Then

.Fill.ForeColor.RGB = RGB(53, 117, 158)

ElseIf Range("AJ72").Value > 450 And Range("AJ72").Value <= 600 Then

.Fill.ForeColor.RGB = RGB(56, 94, 189)

ElseIf Range("AJ72").Value > 600 And Range("AJ72").Value <= 750 Then

.Fill.ForeColor.RGB = RGB(57, 68, 148)

ElseIf Range("AJ72").Value > 750 And Range("AJ72").Value <= 900 Then

.Fill.ForeColor.RGB = RGB(56, 62, 116)

Else

.Fill.ForeColor.RGB = RGB(53, 53, 50)

End If

End With

End Sub

### Coding explanation

*With ActiveSheet.Shapes("R\_Area")*

*If Range("AF13").Value >= 0 And Range("AF13").Value <= 150 Then*

*.Fill.ForeColor.RGB = RGB(41, 186, 21)*

In this code, we selected a Shape call R\_Area, and then we set a if statement to say that if the cell called AF13’s Value bigger and equal to 0, and less than equal 150, then it will change the shape color by using ***.Fill.ForeColor.RGB = RGB(41, 186, 21).***